BOGATOVA, G.P.; DROBININ, O.I.; CHEREMISINOVA, I.P.; NADEZHINA, G.A., red.; FADEYEVA, Ye.I., red.

[Books on the chemization of the national economy; lists recommended for district and rural libraries] Knigi po khimizatsii narodnogo khoziaistva; rekomendatel'nye spiski dlia raionnykh i sel'skikh bibliotek. Moskva, Izd-vo "Kniga," 1964. 23 p. (MIRA 18:1)

1. Moscow. Publichnaya biblioteka.

BOGATOVA, G.P.; DROBININ, O.I.; CHEREMISINOVA, I.P.; NADEZHINA, G.A.; FADEYEVA, Ye.I., red.

[Books on the chemicalization of the national economy; recommended lists for district and rural libraries] Knigi po khimizatsii narodnogo khoziaistva; rekomendatel'nye spiski dlia raionnykh i sel'skikh bibliotek. Moskva, Izd-vo "Kniga," 1964. 23 p. (MIRA 18:4)

1. Moscow. Publichnaya biblioteka.

NADEZHINA, G.N.

PHASE I BOOK EXPLOITATION SOV/4924

Avrasin, Ya.D., ed., Candidate of Technical Sciences

Stekloteksolity i drugiye konstruktsionnyye plastiki; sbornik statey (Glass Textolites and Other Construction Plastics; Collection of Articles) Moscow, Oborongiz, 1960. 167 p. Errata slip inserted. 7,050 copies printed.

Ed. of Publishing House: I.A. Suvorova; Tech. Ed.: N.A. Pukhlikova; Managing Ed.: A.S. Zaymovskaya, Engineer.

PURPOSE: This collection of articles is intended for personnel of plants, design offices, and scientific research institutes.

COVERAGE: The collection of articles contains experimental data on glass textolites and structural plastics. The papers describe the physical, mechanical, and electric insulating properties of laminated and compounded plastics under normal and high temperatures. Topics include the technological methods of manufacturing large-size articles, glass cloth honeycomb fillers used in electronics, the mechanical characteristics of some of the laminated plastics with respect to bolted or riveted joints, and the dielectric properties of glass textolites used in the centimeter wave range. The changeability of physical, mechanical, and electric insulating properties of glass textolites, pressed plastics of fibrous structure (AG-4, DSV-212, DSV-9), and powdery plastics (FAK-4, and K4-70) under the effect of temperature is also covered. No personalities are mentioned. There are no references.

TABLE OF CONTENTS:

AVAILABLE: Library of Congress

Card 3/3

S/196/61/000/006/002/014
E073/E535

AUTHORS: Zakharov, V.A., Nadezhina, G.N., Sakharova, V.I.

TITLE: Variability of the physico-mechanical and electrical insulation properties of some pressed materials under the effect of temperature and other factors (humidity, fuel, oil)

PERIODICAL: Referativnyy zhurnal, Elektrotekhnika i energetika, 1961, No.6, p.17, abstract 6B85. (Sb. Steklotekstolity i drugiye konstrukts. plastiki, M., Oborongiz, 1960, 139-168)

TEXT: The resistance to heating (referred to by the author as "thermal stability") of glass, asbestos fibre and powdery plastic materials of the grades АГ-4 (AG-4), КМС-9 (KMS-9), ТВФЭ-2 (TVFE-2), К41-5, КМК-5, КМК-218, КМК-9 and В4-70 (V4-70) were investigated. Data are presented on the basic properties of these materials, describing the method of testing and giving data on the influence of elevated temperatures on the mechanical and electrical insulation properties of pressed materials (PM). KO-resin base PM have a mechanical strength which is lower than that of similar

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organic resin base materials, both in the initial state and after exposure to elevated temperatures. Long duration exposure to elevated temperatures, which does not cause an appreciable destruction of the binder and a sharp reduction in the mechanical strength, leads to some increase in the electrical insulation properties, particularly tgδ, whereby long duration heating of AG-4, KMS-9 and K41-5 reduces the resistance to humidity of these PM due to the formation of porosities. The permissible operating temperature of the PM under investigation is usually determined on the basis of the drop in their mechanical strength and the loss in weight and not on the basis of their electrical insulation properties. For organic resin-base (including modified KO-products) asbo- and glassfibre PM, this temperature should not exceed 200-250°C and for KO-resin base PM it should not exceed 300-350°C. All asbo- and glassfibre PM are able to withstand short duration effects of higher temperatures. The materials 84-7C (VCh-70) can operate over long periods at temperatures not exceeding 175°C, whilst KMK-9 can operate at 200-250°C. The fuel T-1 and the oil 36/1 does not show any appreciable influence on the

mechanical properties of AG-4 and VCh-70 at temperatures up to 150°C; these materials are suitable for operation under tropical conditions, although a drop in the electrical insulation properties was observed for the material AG-4. 15 references. Abstracted by A. Magidson.

[Abstractor's Note: Complete translation.]

Card 3/3

NADEZHINA, I.M.; MASUMOV, S.A., professor, direktor.

Masked perforation in gastric and duodenal ulcers. Khirurgiia no.7:34-37 Jl '53. (MLRA 6:9)

1. Gospital'naya khirurgicheskaya klinika lechebnogo fakul'teta Tashkentskogo meditsinskogo instituta imeni V.M.Molotova.
(Stomach--Ulcers) (Duodenum--Ulcers)

NADEZHINA, I.M.

Treatment of peritonitis. Sbor.trud.Tashk.KBNP no.1:126-132 '56
(PERITONITIS) (MIRA 11:3)

NADEZHINA, I. M., Cand Tech Sci -- (diss) "Research into the process of heat exchange through glass surfaces covered with moving hot water." Minsk, 1960. 15 pp; (Ministry of Higher and Secondary Specialist Education Belorussian SSR, Belorussian Polytechnic Inst im I. V. Stalin); 150 copies; price not given; (KL, 26-60, 136)

NADEZHINA, I.M.

Differential diagnosis of acute appendicitis, rupture of the ovary, and extrauterine pregnancy. Med. zhur. Uzb. no.1:20-26 Ja '61. (MIRA 14:6)

1. Iz kafedry gospital'noy khirurgii (zav. - prof. S.A.Masumov) Tashkentskogo gosudarstvennogo meditsinskogo instituta.

(APPENDICITIS) (OVARIES--DISEASES)
(PREGNANCY, EXTRAUTERINE)

NADEZHINA, I. M.

Diagnostic errors in acute appendicitis and renal colic. Med. Zhur. Uzb. no.6:24-27 Je '62. (MIRA 15:7)

1. Iz kafedry gospital'noy khirurgii (zav. - prof. S. A. Masumov) Tashkentskogo gosudarstvennogo meditsinskogo instituta.

(APPENDICITIS) (CALCULI, URINARY)

NADEZHINA, L. S.

Metallurgical Abst.
Vol. 21 May 1954
Electrometallurgy and Electrochemistry

*Electrode Polarization on the Dropping Mercury Cathode in the Electroreduction of Nickel and Cobalt in a Solution of Potassium Tartrate. V. N. Kovalenko and L. S. Nadezhina (*Doklady Akad. Nauk S.S.S.R.*, 1951, 78, (6), 1165–1168). [In Russian]. Increasing the *p*H from 4·2 to 6·1 in the electroreduction of Ni and Co in 0·1*N*-soln. of K tartrate significantly reduces the diffusion current (i_d) for both metals, owing to the reduction in mobility of the complex tartrate ions. With a further increase in *p*H from 6·1 to 12·0, i_d for Ni remains almost const., but i_d for Co continues to fall up to *p*H 8·0 and is completely suppressed at *p*H 10·0; this enables Ni to be determined in the presence of considerable amounts of Co. Polarograms for 0·001*M*-soln. of Ni or Co in 2% K tartrate at *p*H of 4–12 are given; their slopes differ considerably from the theoretical value (0·020). The polarization is greater with Ni than with Co, and in each case increases on passing from acid to neutral media, but is almost const. on further increase in *p*H. A change in tartrate concentration shifts the half-wave potential, $\varepsilon_{\frac{1}{2}}$, as a result of a change in the nature of the complex ions. The variation of i_d for Ni with the tartrate concentration at *p*H 10 is the same as that at *p*H 6·3, but i_d is slightly greater and $\varepsilon_{\frac{1}{2}}$ is more negative since more stable complex ions are formed. With soln. contg. both Ni and Co, separate polarographic waves were obtained only with tartrate concentrations >0·0% and *p*H >~6·5; in 1–2% tartrate, i_d ∝ concentration of Ni or Co. The wave for Ni runs together with the base wave for tartrate concentrations >6·0% and disappears entirely at ~20% Na tartrate, when that for Co is still sharp, thus enabling Co to be determined in the presence of considerable amounts of Ni.—O. V. E. T.

Rostov-on-Don State Univ.

L 27833-65 EWT(m)/EWP(t)/EWP(b) Pad IJP(c) JD/HW
ACCESSION NR: AP5005843 S/0075/65/020/002/0187/0191 19 18 B

AUTHOR: Denisov, Ye. I.; Nadezhina, L. S.

TITLE: Polarographic determination of nickel in phosphors 27

SOURCE: Zhurnal analiticheskoy khimii, v. 20, no. 2, 1965, 187-191

TOPIC TAGS: zinc sulfide phosphor, cadmium sulfide phosphor, high purity zinc, high purity cadmium, microimpurity determination, nickel determination, polarographic analysis, nickel separation, ion exchange separation

ABSTRACT: The conventional polarographic method with preliminary separation of nickel from the bulk of zinc or cadmium has been applied to the determination of nickel microimpurity in high-purity zinc and zinc-sulfide phosphor or in cadmium and cadmium-sulfide phosphor. AB-17-type anion-exchange resins were used for separation and concentration of nickel because the previously used technique of separation on a stationary mercury drop electrode did not give reproducible data since nickel (also cobalt and iron) does not form amalgams. The bulk of the zinc and cadmium were retained on the resin, and the nickel passed through. The enrichment was about 60,000 times, and the separation of nickel from the base metal was complete after two passes through a column packed with anionic resin and washing out

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ACCESSION NR: AP5005843

with a minimum of 2NHCl. Nickel in the presence of cadmium was determined polarographically in an ammonia-ammonium chloride solution, and in the presence of zinc in a pyridine-potassium chloride solution containing mannitol, which was added to eliminate the interference of iron in making the determination. The sensitivity of the determination is 1×10^{-4}%, and the accuracy ±10%. The method was tested on industrial samples and gave reproducible data. It is recommended for quality control in production. Orig. art. has: 5 figures and 4 tables. [JK]

ASSOCIATION: Leningradskiy politekhnicheskiy institut im. M. I. Kalinina (Leningrad Polytechnic Institute)

SUBMITTED: 01Feb64 ENCL: 00 SUB CODE: GC, OP

NO REF SOV: 002 OTHER: 000 ATD PRESS: 3193

Card 2/2

NADEZHINA, L. S.

USSR/Chemistry - Electrolysis, Polarography May 52

"Electrodic Polarization in Electrolysis of Nickel and Cobalt With a Mercury Drop Electrode," P. N. Kovalenko, L. S. Nadezhina, Rostov State U

Zhur Obshch Khim, Vol 22, No 5, pp 740-752, 1952

Electrodic polarization of nickel and cobalt sulfates was investigated. An irreversible electroreduction of Ni and Co in some NH_4OH-NH_4Cl buffer mixtures and ammonium oxalate solns takes place. The reason for the reduction from complex ions formed in the above media is static hydration, which prevents instantaneous decompn of ions. If the hydrate layer is destroyed, chemical polarization lessens or stops, and a reversible process of electroreduction of Ni and Co ions is favored. Expts show that in pres of NH_4OH in a definite concn range, oxalic complex Ni and Co ions are destroyed and ammonia complex ions are formed. A formula is given which shows the height of the diffusion waves of Ni and Co as a function of their concn: $i_d = KC$.

NADEZHINA, L.S.

Nadezhina, L.S. --"A Study of the Pjysicochemical Properties of Diethylglyoxime Complexes of Nickle and Cobalt and Their Use in the Contol of Zinc Production." Cand Chem Sci, Rostov State U, Rostov-onDon 1953. (REFERATIVNYY ZHURNAL--KHIMIYA, No 1, Jan 54)

Source: SUM 166, 22 July 1954

NADEZHINA, L. S.

USSR/Chemistry - Physical chemistry

Card 1/1 Pub. 151 - 7/37

Authors : Nadezhina, L. S., and Lovalenko, P. N.

Title : Composition of soluble complex nickel-dimethylglyoxime compounds forming in the presence of oxidants.

Periodical : Zhur. ob. khim. 24/10, 1734-1741, Oct 1954

Abstract : The basic physico-chemical characteristics of $NiSO_4 - H_2Dm - J_2$, $NiSO_4 - H_2Dm - Br_2$, $NiSO_4 - H_2Dm - K_3[Fe(CN)_6]$, $NiSO_4 - H_2Dm - (NH_4)_2S_2O_8$, $NiSO_4 - H_2Dm -$ atmospheric oxygen were investigated in the presence of various oxidizing agents. The physico-chemical analysis data were also confirmed by calculating the coordination number by the method of the boundary logarithm. The process of reaction between Ni and dimethylglyoxime, in the presence of oxidants, is explained. The results obtained are described in detail. Six references: 4-USSR; 1-German and 1-Italian (1924-1953). Table; graphs.

Institution : State University, Rostov/Don

Submitted : February 15, 1954

Nadezhina, L. S.

USSR/Chemistry - Analytical chemistry

Card 1/1 Pub. 22 - 25/47

Authors : Nadezhina, L. S., and Kovalenko, P. N.

Title : Composition of complex compounds of divalent cobalt with dimethylglyoxime

Periodical : Dok. AN SSSR 101/6, 1073 - 1074, Apr. 21, 1955

Abstract : Physico-chemical analysis with the aid of colored solutions was carried out to determine the chemism of the reaction between cobalt and dimethylglyoxime in the presence of sodium stannite. Results showed that wherever the $CoSO_4$ and Na_2SnO_2 concentrations were equal, the violet coloring characteristic for compounds of divalent cobalt with dimethylglyoxime, did not appear; instead, there was the formation of an ordinary brown Co^{3+} with H_2Dm complex which indicated that the sodium stannite acted only as a medium retaining the Co in divalent state. Three references: 2 Russian and USSR and 1 USA (1906-1951). Graphs.

Institution : The V. M. Molotov State University, Rostov/Don

Presented by: Academician A. P. Vinogradov, November 25, 1954

NADEZHINA, L. S.

The composition of the complex compounds of cobalt with dimethylglyoxime formed in the presence of Na_2SnO_3. L. S. Nadezhina and P. N. Kovalenko (State Univ., Rostov-on-Don). *Zhur. Obshchei Khim.* 26, 1879-85(1958); cf. *C.A.* 50, 4023b.—The complex compds. of Co^{++} with dimethylglyoxime (H_2Dm) which are formed in ammoniacal and alk. solns. in the presence of Na_2SnO_3 were studied by the photoelectrocolorimetric anal. of the solns. The reaction between Co^{++}, NH_4OH, and H_2Dm in the presence of Na_2SnO_3 yields a compd. having the compn. $[Co(HDm)_2 \cdot 2NH_3]$. It is proposed that in an alk. medium but in the absence of NH_4OH, the compd. $[Co(HDm)_2 \cdot 2H_2O]$ is formed. These compds. could not be isolated from the soln. because of their instability in air. J. Rovtar Leach

AUTHORS: Nadezhina, L. S., Razumova, V. P. 75-6-24/33

TITLE: The Determination of Small Quantities of Lead in Pure Metals and Ferro-Alloys (Opredeleniye malykh kolichestv svintsa chistykh metallov i ferrosplavakh).

PERIODICAL: Zhurnal Analiticheskoy Khimii, 1957, Vol. 12, Nr 6, pp. 731-735 (USSR).

ABSTRACT: The rapid method for the isolation of small quantities of lead from ferro alloys and pure metals is based on the coprecipitation of $PbSO_4$ with $SrSO_4$ as collector and on the dissolution of the sulphate deposit in hot alkaline complexon/III/-solution. The excess of alkali in the solution is neutralized with hydrochloric acid in the case of indicator methyl orange and the lead is polarographically determined. These determinations were carried out on the polarograph "Geologorazwedka" SGM-8, Nr 18952, The optimum conditions for the determination of lead are pH 3,5 and 0,1 % complexon/III/-solution. The duration of the analysis amounts to 3 to 5 hours. The sensitiveness amounts to 0,001% lead with a 1o g specimen. Lead in quantities from 0,01 to 0,002 % in steel- and chrome-nickel alloys, metallic copper and chrome, was determined by this method.

Card 1/2

The Determination of Small Quantities of Lead in Pure Metals and 75-6-11/22
Ferro Alloys.

There are 5 figures, 2 tables, and 4 references, 2 of which are Slavic.

ASSOCIATION: Polytechnical Institute imeni M. I. Kalinin-Leningrad (Leningradskiy politekhnicheskiy institut imeni M. I. Kalinina).

SUBMITTED: May 30, 1956.

AVAILABLE: Library of Congress.

1. Metals-Lead determination 2. Ferro alloys-Lead determination

Card 2/2

NADEZHINA, L.S.; KOVALENKO, P.N.

Rapid method of determining trace amounts of nickel and cobalt in zinc electrolytes. Uch. zap. RGU 40:69-86 '58. (MIRA 13:10)
(Nickel--Analysis) (Cobalt--Analysis)

NADEZHINA, L.S.

Colorimetric method of determining antimony in chromium-nickel alloys. Trudy LPI no.201:120-126 '59. (MIRA 13:3)
(Antimony--Analysis) (Chromium-nickel alloys)

NADEZHINA, L.S.; KOVALENKO, P.N.

Polarographic method of determining the diffusion coefficients of nickel and cobalt in solutions of various complex-forming compounds. Trudy LPI no.201:127-135 '59. (MIRA 13:3)
(Nickel) (Cobalt) (Diffusion)

RAZUMOVA, V.P.; NADEZHINA, L.S.

Determination of cadmium in chromium-nickel alloys. Trudy LPI no.201:158-162 '59. (MIRA 13:3)
(Cadmium--Analysis) (Chromium-nickel alloys)

ANDREYEV, A.S., dots.; DENISOV, Ye.I., dots.; GRINZAYD, Ye.L., dots.; NADEZHINA, L.S., assist.; RAZUMOVA, V.P., assist.

[Analytical chemistry; principles of quantitative analysis] Analiticheskaia khimiia; osnovy metodov kolichestvennogo analiza. Posobie k laboratornym zaniatiam dlia studentov vsekh spetsial'nostei fiziko-metallurgicheskogo fakul'teta. [By] A.S. Andreev i dr. Leningrad, Leningr. politekhnich. in-t, 1962. 173 p. (MIRA 16:10)

1. Kafedra analiticheskoy khimii Leningradskogo politekhnicheskogo instituta im. M.I.Kalinina (for all except Denisov).

(Chemistry, Analytical--Quantitative)

CHEPINOGA, O.P. [Chepynoha, O.P.]; NADEZHINA, S.P. [Nadiozhyna, S.P.]; SERBA, R.M.

Nature of the composition and metabolism of some fractions of ribonucleic acid in the liver. Ukr. biokhim. zhur. 35 no.5:643-655 '63. (MIRA 17:5)

1. Institute of Biochemistry of the Academy of Sciences of the Ukrainian S.S.R., Kiev.

NADEZHINA, T. P.

Nadezhina, T. P. -- "Some Aspects of the Biology and Ecology of Tragacanth Milk-Vetch of Komet-Dag as a Basis for Its Exploitation, and the Outlook for Its Cultivation." Acad Sci USSR. Botanical Inst imeni V. L. Komarov. Leningrad, 1956 (Dissertation for the Degree of Candidate in Biological Science)

So: Knizhnaya Letopis', No 1 , 1956

NADEZHINA, T.P.

Methods of computing correlations of certain elements of plant tissues in tangential sections. Bot.zhur. 41 no.3:379-386 Mr '56. (MLRA 9:8)

1. Botanicheskiy institut imeni V.L. Komarova Akademii nauk SSSR, Leningrad.
(Botany--Anatomy) (Botany--Methodology)

N DEZHINA, T.P.

Growth and development characteristics of some tragacanth milk vetches of Kopet-Dag and their phenological cycle. Trudy Bot. inst.Ser. 5 no.10:65-118 '62. (MIRA 15:2)
(Kipet-Dag--Milk vetches)

NADEZHINA, T.P.

Some of morphological and biological characteristics of the tragacanth milk vetches of Kopet-Dag. Trudy Bot.inst.Ser.5 no.10: 119-149 '62. (MIRA 15:2)

(Kopet-Dag—Milk vetches)

NADEZHINA, T.P.

Materials on the biocenotic characteristics of tragacanth-bearing vetches of Kopet-Dag. Trudy Bot. inst. Ser. 5 no.11: 186-211 '63.

Prerequisites for the use of tragacanth stands of Turkmenistan by the pruning of shrubs and consecutive extraction of gum. (300-320) (MIRA 16:10)

NADEZHINA, T.P.

Glycyrhizin content in licorice roots and rhizomes. Bot. zhur. 48 no.9:1332-1337 S '63. (MIRA 16:11)

1. Botanicheskiy institut imeni V.L. Komarova AN SSSR, Leningrad.

SOKOLOV, V.S., NADEZHINA, T.P.

First conference on licorice. Bot. zhur. 49 no.9:1382-1385 S '64. (MIRA 17:12)

1. Botanicheskiy institut im. V.L. Komarova AN SSSR, Leningrad.

SOKOLOV, V.S., doktor biolog. nauk; NADEZHINA, T.P., kand. biolog. nauk

An economically promising plant; conference in Leningrad.
Vest. AN SSSR 34 no.8:103-104 Ag '64.

NADEZHINA, T.P.

Some ecological, morphological and biological characteristics of licorice species growing in the U.S.S.R. Rast.res. 1 no.3:340-354 '65. (MIRA 18:10)

1. Botanicheskiy institut imeni V.L.Komarova AN SSSR, Leningrad.

NADEZHINA, T.P.

Some problems of flowering, fruiting and seed reproduction of Glycyrrhiza glabra L. in the Amu Darya floodplain. Trudy Bot. inst. Ser. 5 no. 13:110-140 '65.

Materials on the structure of the underground organs of Glycyrrhiza glabra L. growing in a floodplain. Ibid.: 141-164

Glycyrrhiza uralensis Fisch. in the Abakan-Minusinsk depression. Ibid.:165-182

Characteristics of the reproduction of Glycyrrhiza uralensis Fisch. and the structure of its underground organs in the Abakan-Minusinsk depression. Ibid.:183-197 (MIRA 18:12)

KONDRATENKO, P.T.; SHRETER, A.I.; GUBANOV, I.A.; SOKOLOV, V.S.; NADEZHINA, T.P.

Brief news. Apt. delo 14 no.1:88-91 Ja-F '65. (MIRA 18:10)

L 12362-65 EWT(1)/EWP(m)/EWG(v)/FCS(k)/EWA(h)/EWA(l) Pd-1/Pe-5/Pi-4
BSD/AEDC(b)/AS(mp)-2/AEDC(a)/ASD(f)-2/AFWL/SSD/SSD(b)

ACCESSION NR: AT4048011 S/0000/64/000/000/0092/0099

AUTHOR: Bazhenova, T. V.; Predvoditeleva, O. A.; Nadezhina, T. V.

TITLE: Losses due to reflection of shock waves from the end of a shock tube

SOURCE: AN SSSR. Energeticheskiy institut. Fizicheskaya gazodinamika i svoystva gazov pri vy*sokikh temperaturakh (Physical gas dynamics and properties of gases at high temperatures). Moscow, Izd-vo Nauka, 1964, 92-99

TOPIC TAGS: shock tube, shock wave reflection, heat transfer, shock wave reflection loss, thermal flux

ABSTRACT: The authors experimentally investigated the energy losses due to shock waves being reflected from various types of end faces in a shock tube (losses caused by heat transfer to the tube walls). In this instance, flow bifurcation did not affect the flow structure. Brief descriptions of the apparatus and procedure are given. The pressures behind the reflected and incident shock waves and the velocities of the reflected shock wave were measured in nitrogen

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ACCESSION NR: AT4048011

within a range of Mach 4 to 7, with an initial pressure of 12.7 mm Hg, then plotted in graphs. A comparison of the measured values of pressures and velocities with theoretical values shows the presence of losses which decrease the velocities of reflected shock waves by an average of 7 to 10%. Heat fluxes to the wall behind the shock wave were calculated by means of successive approximations. The results presented in graphical and tabular form show that time dependences of temperature and thermal flux are not constants. As the decrease in the velocity of the reflected shock wave is a consequence of the energy loss, the latter can be experimentally evaluated by the change in velocity. A numerical example given for a shock wave in nitrogen at M = 6.8, initial pressure 0.0167 atm, and reflected-wave velocity 570 m/sec shows that the energy losses due to shock-wave reflection caused by nonadiabatic processes are one order of magnitude smaller than the total energy losses. Orig. art. has: 8 figures.

ASSOCIATION: none

SUBMITTED: 06Mar64 ATD PRESS: 3126 ENCL: 00

SUB CODE: ME NO REF SOV: 006 OTHER: 000

Card 2/2

NAUEZHINA, Ye.D.

A case of air transformation as an effect of an active surface. Trudy GGO no.127:116-121 '62. (MIRA 15:7)
(Atmosphere)

ACCESSION NR: AT4028752 S/2531/63/000/144/0196/0201

AUTHOR: Nadezhina, Ye. D.;

TITLE: On the transformation of a temperature field, humidity field and the turbulence characteristics

SOURCE: Leningrad. Gl. geofiz. observ. i. Ukr. n.-i. gidrometeorol. inst. Trudy*, no. 144/40, 1963. Fizika pogranichnogo sloya atmosfery* (physics of the atmospheric boundary layer): Dneprovskaya expeditsiya GGO i UkrNIGMI, 196-201

TOPIC TAGS: temperature field, humidity field, turbulence, turbulent characteristics, air mass, boundary condition

ABSTRACT: The author examines a method of solving the problem on the transformation of a complex of meteorological elements, including the coefficient of turbulence in an air mass which develops into an underlying surface with essentially new properties. The task is solved by sequential approximations. Through a series of mathematical arguments, the author derives an expression for the first approximation. Some calculations which will make it possible to determine the degree of influence of the turbulence regime change consideration on the transformation of the temperature and humidity fields are given. Boundary conditions are calculated and presented. It is

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ACCESSION NR: AT4028752

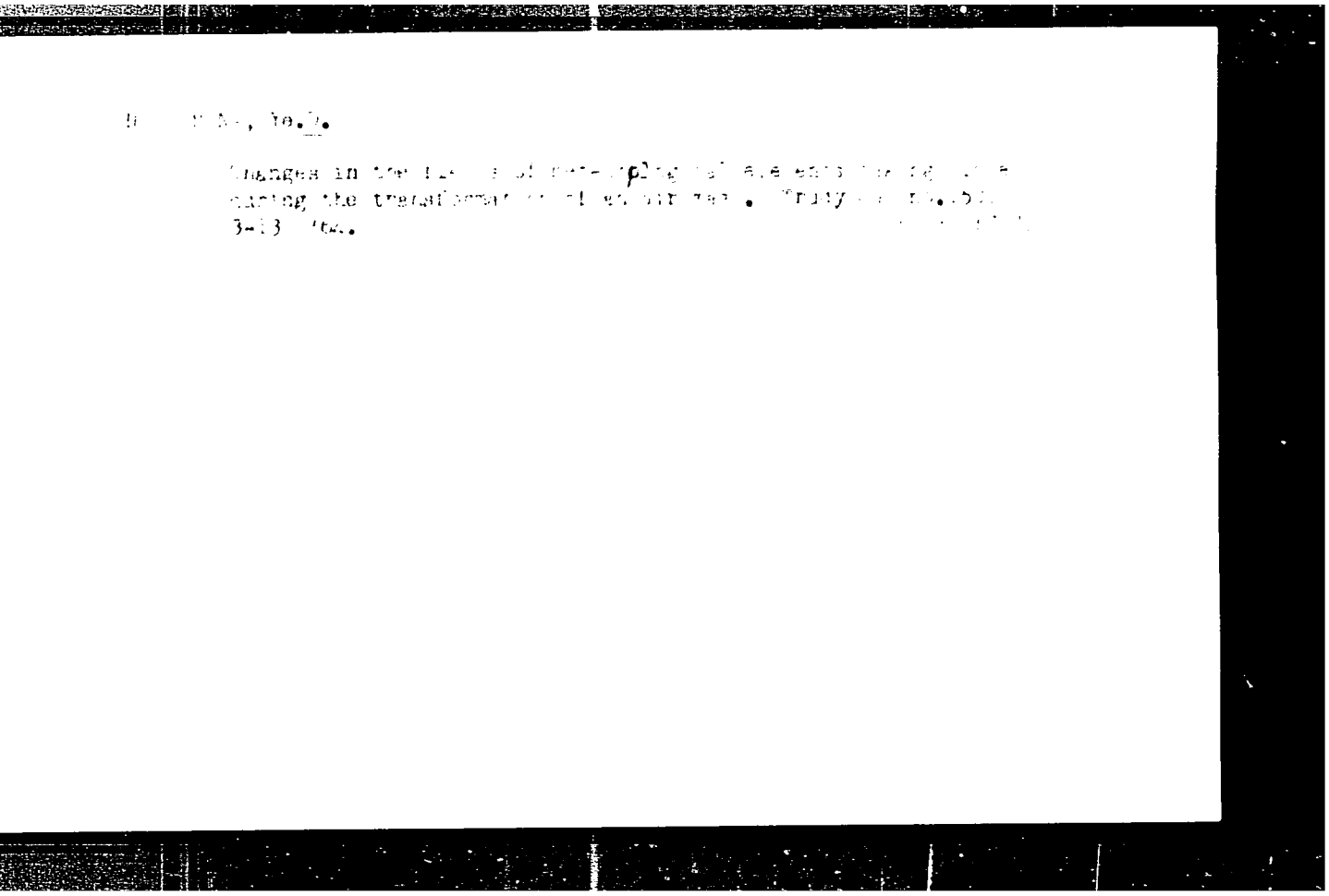
evident from the graphs that the indicated condition doubles the value of fluxes at sufficiently large distances from the edge, where the changes of the turbulence coefficient are at a maximum. Orig. art. has: 2 figures and 18 formulas.

ASSOCIATION: Leningradskaya glavna geofizicheskaya observatoriya (Principle Geophysical Observatory of Leningrad)

SUBMITTED: 00 DATE ACQ: 16Apr64 ENCL: 00

SUB CODE: AS, MM NO REF SOV: 001 OTHER: 000

Card 2/2



L 14188-66 EWT(1)/FCC GW

ACC NR: AT6004151 SOURCE CODE: UR/2531/65/000/167/0059/0066

AUTHOR: Nadezhina, Ye. D.; Simonov, V. V. 4/8 B+1

ORG: Main Geophysical Observatory, Leningrad (Glavnaya geofizicheskaya observatoriya)

TITLE: Formation and transformation of advective fog 12,44,55

SOURCE: Leningrad. Glavnaya geofizicheskaya observatoriya. Trudy, no. 167, 1965. Fizika pogranichnogo sloya atmosfery (Physics of the boundary layer of the atmosphere), 59-66

TOPIC TAGS: phase transition, heat conductivity, meteorology, fog, water vapor

ABSTRACT: The paper is an attempt to generalize the theory of advective fogs. Extension of the theory from specific to general cases has the following features: 1. equations for heat influx and moisture transfer take account of turbulent mixing during phase transitions in moisture; 2. radial heat flux is accounted for; 3. a heat balance equation is used as the boundary condition on the underlying surface; 4. the transfer of water content is taken into consideration to account for transformation of the fog when there is a nonhomogeneous underlying surface; 5. the

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L 14188-66

ACC NR: AT6004151 O

equation of heat conductivity for the soil is considered to account for non-stationary conditions; 6. the theory may be used for predicting the formation and transformation of advective fogs independently of their nature. Formulas are derived for calculating the profiles of meteorologic elements both inside and outside the fog. A method of successive approximation is proposed as the computational scheme. Examples are given showing the application of the method. Curves are plotted showing the boundaries of the fog and the water content profile assuming a drop in temperature with altitude. Cases of increasing and decreasing humidity with altitude are considered, assuming water vapor saturation in the first case and unsaturated water vapor in the second case. Orig. art. has: 2 figures, 1 table, 35 formulas.

SUB CODE: 08/ SUBM DATE: 00/ ORIG REF: 007/ OTH REF: 000

Card 2/2

LAYKHTMAN, D.L.; NADEZHINA, Ye.D.; SIMONOV, V.V.

Effect of a change in external conditions on the [illegible] of low clouds. Trudy GGO no.167:67-72 '65.

(M[illegible])

L 05867-67 EWT(1) GW

ACC NR: AT6021508 SOURCE CODE: UR/2531/66/000/187/0069/0076

25
R+/

AUTHOR: Nadezhina, Ye. D.

ORG: none

TITLE: The use of turbulent energy-balance equations in a problem of air-mass transformation

SOURCE: Leningrad. Glavnaya geofizicheskaya obsevatoriya. Trudy, no. 187, 1966. Fizika pogranichnogo sloya atmosfery (Physics of the atmospheric boundary layer), 69-76

TOPIC TAGS: theoretical meteorology, atmospheric turbulence, wind field, temperature field, humidity field, air mass transformation

ABSTRACT: A simultaneous system of equations of motion, heat influx, and turbulent energy balance is solved to determine the characteristics of a changing air mass (changes in temperature, winds, and turbulent-exchange coefficient). The system of equations is simplified to correspond to processes in a thin boundary layer, and the vertical diffusion of turbulent energy is neglected. The following boundary conditions are imposed: 1) the flow adheres to the level of roughness; 2) the temperature is given at the level of the underlying surface; 3) the effect of

Card 1/2

L 05867-67
ACC NR: AT6021508

the underlying surface extends to the top of the boundary layer; and 4) the exchange coefficient is negligibly small at the level of the underlying surface. The initial system of equations is linearized and solved by the Shvets method. It is assumed here that quasi-stationary conditions exist in the air mass. The desired solution is obtained through successive approximation. As an illustration, the method is applied to the problem of uniform flow around a heated (or cooled) plate. It is claimed that this method can be applied to calculations of changes in temperature and humidity in the boundary layer, taking vertical currents into consideration. Orig. art. has: 1 figure and 36 formulas. [EO]

SUB CODE: 04/ SUBM DATE: none/ ORIG REF: 010

kh

Card 2/2

NADEZHKIN, A.D.

Features of the oil potential of the Carboniferous sediments of Bashkiria. Geol. nefti i gaza 6 no.2:38-42 F '62.
(MIRA 15:2)

1. Ufimskiy neftyanoy nauchno-issledovatel'skiy institut.
(Bashkiria--Petroleum geology)

OVANESOV, G.P.; NADEZHKIN, A.D.

Methods for appraising the predicted oil and gas reserves. Geol. nefti gaza 6 no.4:44-46 Ap '62. (MIRA 15:4)

1. Upravleniye Bashneft'.
(Petroleum geology) (Gas, Natural--Geology)

MUSIN, M.Kh.; CHERNOMORSKIY, V.N.; NADEZHKIN, A.D.

Synoptic geological section of lower Carboniferous terrigenous deposits of northwestern Bashkiria. Dokl. AN SSSR 143 no.3:674-677 Mr '62. (MIRA 15:3)

1. Ufimskiy neftyanoy nauchno-issledovatel'skiy institut. Predstavleno akademikom N.M.Strakhovym.
(Bashkiria—Geology, Stratigraphic)

NADEZHKIN, A.D.; POSTNIKOV, D.V.

Deformations of rocks of the terrigenous stratum of the Lower Carboniferous produced at the time of sedimentation in the northwest of the Bashkir A.S.S.R. Dokl.AN SSSR 145 no.4:885-886 Ag '62. (MIRA 15:7)

1. Ufimskiy neftyanoy nauchno-issledovatel'skiy institut. Predstavleno akademikom N.M.Strakhovym.
(Bashkiria--Geology, Stratigraphic)

ALEKSEYEV, Yuriy Fedorovich; NADEZHKIN, Aleksandr Danilovich; KAYESHKOVA, S.M., ved. red.; VORONOVA, V.V., tekhn. red.

[Means for increasing core recovery; practices of Bashkirian petroleum workers] Puti uvelicheniia vynosa kerna (opyt neftianikov Bashkirii). Moskva, Gostoptekhizdat, 1963. 67 p. (MIRA 16:10)

(Bashkiria--Core drilling)

NADEZHKIN, A.I.; POSTNIKOV, D.V.

Facies interrelationship in Tula horizon deposits of western Bashkiria. Izv.vys.ucheb.zav.; neft' i gaz 6 no.2:300-302 '63. (MIRA 17:10)

1. Ufimskiy nauchno-issledovatel'skiy neftyanoy institut, Ufa.

NADEZHKIN, A.D.; SHATOV, Yu.I.

New data on the gas potential of the middle Carboniferous sediments of Bashkiria. Neftegaz. geol. i geofiz. no. 5: 19-22 '63. (MIRA 17:5)

1. Ufinskiy neftyanoy nauchno-issledovatel'skiy institut.

ROZANOV, L.N.; VISSARIONOVA, A.Ya.; AKSENOV, A.A.; NADEZHKIN, A.D.

Geological basis for the prospects for finding gas and oil in Bashkiria. [Trudy] NIIneftegaza no.10:308-352 '63.
(MIRA 18:3)

1. Volgogradskiy nauchno-issledovatel'skiy institut neftyanoy i gazovoy promyshlennosti i Ufimskiy neftyanoy nauchno-issledovatel'skiy institut.

KURBATOV, B.N.; NADEZHKIN, I.I.

Studying the density of surface deposits during gravity prospecting. Vop. razved. geofiz. no.3:138-142 '64. (MIRA 18:2)

NADEZHKIN, L.V.

Mechanism of a definite form of facilitation processes occurring in a nerve-muscle preparation of the frog. Fiziol.zhur. 46 no.6:677-682 Je '60. (MIRA 13:8)

1. From the Chair of normal physiology of the Pavlov Medical Institute, Leningrad.
(MUSCLES—INNERVATION) (ACETYLCHOLINE)

ANTOSHKINA, Ye.D.; NADEZHKIN, L.V.

Posttetanus potentiation of polysynaptic reflexes in various segments of the spinal cord in frogs. Fiziol.zhur. 51 no.4: 466-471 Ap '65. (MIRA 18:6)

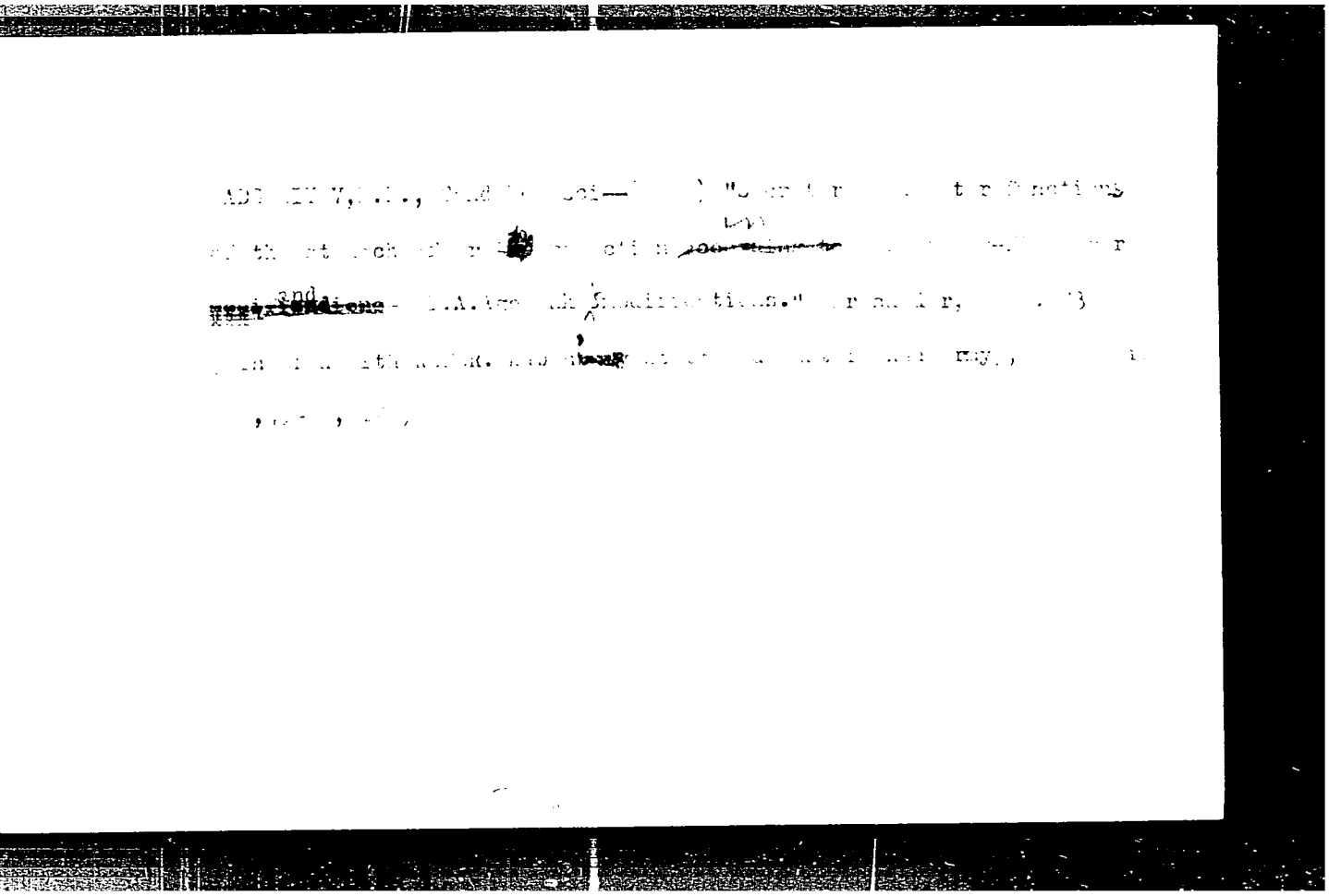
1. Kafedra normal'noy fiziologii I Meditsinskogo instituta imeni Pavlova, Leningrad.

NADEZHKO, Z. A.

GHUTENKO, M.P.; PAPKOVA, L.A.; NADEZHKO, Z.A.; DEMCHUK, A.I.; YEGOROVA, S.I.

The pigment-producing Schizosaccharomyces acidodevoratus and measures for controlling them [with summary in English]. Mikrobiologiia, 26 no.2:353-359 My-Je '57. (MIRA 10:10)

1. Saratovskiy gosudarstvennyy universitet.
(FUNGI,
Schizosaccharomyces acidodevoratus, pigment-forming strains, control (Rus))



SHEVCHENKO, N.F., otv. red.; BABAYEVA, Ye.K., red.; BELOUSOV, Ye.K., red.; VINNIK, S.A., prof., red.; GERSHEVICH, S.A., red.; IOSSET, G.Ya., prof., red.; KATYUKHIN, N.Ya., red.; KISELEVA, A.S., red.; MENSHCHIKOVA, L.I., red.; NADGELIYEV, M.K., dots., red.; OBUKHOV, P.F., red.; RUTENBURG, D.N., red.; FAYN, M.A., dots., red.; OVECHKINA, L.S., red.

[Public health in Amur Province; collection of articles] Zdravookhranenie Amurskoi oblasti; sbornik statei. Blagoveshchensk, Amurskoe knizhnoe izd-vo, 1962. 236 p. (MIRA 17:7)

1. Amur (Province) Otdel zdravookhraneniya. 2. Zaveduyushchiy Gospital'noy khirurgicheskoy klinikoy Blagoveshchenskogo meditsinskogo instituta, Amurskaya oblast' (for Iosset). 3. Blagoveshchenskiy meditsinskiy institut, Amurskaya oblast' (for Obukhov). 4. Zaveduyushchiy Klinikoy obshchey khirurgii Blagoveshchenskogo meditsinskogo instituta, Amurskaya oblast' (for Nadgeliyev). 5. Zaveduyushchiy Kafedroy otorinolaringologii Blagoveshchenskogo meditsinskogo instituta, Amurskaya oblast' (for Vinnik). 6. Zaveduyushchiy Kafedroy sudebnoy meditsiny Blagoveshchenskogo meditsinskogo instituta, Amurskaya oblast' (for Fayn).

NADGERIYEV, M.K., kand. med. nauk, otv. red.; BARKOV, B.A., prof., red.; PETROV, A.P., red.; SAMOTEYKIN, M.A., dots., zam. otv. red.; TSITRITSKIY, Ye.R., red.; MAMONTOVA, O.K., red.

[Papers on morphology and surgery; dedicated to the 35th anniversary of the medical, scientific-pedagogical and social work of Professor A.I.Labbok] Sbornik trudov po morfologii i khirurgii; posviashchennyi 35-letiiu vrachebnoi, nauchno-pedagogicheskoi i obshchestvennoi deiatel'nosti prof. A.I.Labboka. Blagoveshchensk, Amurskoe knizhnoe izd-vo, 1960. 310 p. (MIRA 15:7)

1. Blagoveshchenskiy gosudarstvennyy meditsinskiy institut. 2. Kafedra fakul'tetskoy khirurgii Severo-Osetinskogo meditsinskogo instituta (for Nadgeriyev). 3. Zaveduyushchiy Kafedroy fakul'tetskoy khirurgii Arkhangel'skogo meditsinskogo instituta (for Barkov). 4. Kafedra operativnoy khirurgii i topograficheskoy anatomii Blagoveshchenskogo meditsinskogo instituta (for Petrov). 5. Zaveduyushchiy Kafedroy patologicheskoy anatomii Blagoveshchenskogo meditsinskogo instituta (for Samoteykin).

(LABBOK, ABRAM IOSIFOVICH, 1904-)
(SURGERY) (MORPHOLOGY)

NADGERIYEV, M.K., dotsent; KOCHEGAROV, A.A.

Combination of alveolar cancer and echinococcosis of the lungs. Khirurgiia 38 no.12:104-105 D '62. (MIRA 17:6)

1. Iz kliniki obshchey khirurgii (zav. - dotsent M.K. Nadgeriyev) Blagoveshchenskogo meditsinskogo instituta.

NADGERIYEV, M.K., dotsent; KOCHEGAROV, A.A., kand.med.nauk; SHISHLOV, V.I.

Problems in the diagnosis and treatment of suppurative diseases of the lungs. Sov.med. 28 no.12:14-18 D '65.

(MIRA 18:12)

1. Klinika obshchey khirurgii (zav. - dotsent M.K.Nadgeriyev) i klinika gospital'noy terapii (zav. - dotsent S.G.[illegible]) Rostovskogo-veshchenskogo meditsinskogo instituta.

BOLOTIN, Ya.S.; NADGOL'NYY, V.F.

Rapid firing of wide-chamber, small size Dinas brick coke ovens. Koks i khim. no.2:31-33 '60. (MIRA 13:5)

1. Koksokhimstantsiya.
(Kaliningrad--Coke ovens)

BOLOTIN, Ya.S.; NADGOL'NYY, V.F.

Methods for determining the air flow sections of gas and air valves. Koks i khim. no.5:29-31 '60. (MIRA 13:7)

1. Koksokhimstantsiya.
(Coke ovens)

Nadgornaya N.I.

"Electron Microscopy of Leukocyte Extracts of Persons Suffering From Leukosis," by N. I. Nadgornaya and M. A. Vinogradskaya, Laboratory of Etiology of Tumors (head, Prof A. D. Timofeyevskiy, Active Member, Academy of Medical Sciences USSR), Ukrainian Institute of Microbiology, Epidemiology, and Hygiene (director, S. N. Terekhov) and the Hematology Division of the Ukrainian Institute of Clinical Medicine (head, Prof D. N. Yanovskiy, director, Prof A. L. Mikhnev), Voprosi Onkologii, Vol 2, No 5, 56, pp 528-532

The purpose of this research was to obtain new proofs of the presence of viruslike formations in extracts from leukocytes of persons suffering from leukosis. The method used was electron microscopy, according to A. D. Timofeyevskiy.

A total of 40 patients were under observation: eight with acute and subacute forms of leukosis and 32 with the chronic form.

In the extracts from leukocytes of persons suffering from leukosis were detected single globular formations measuring 50 - 150 millimicrons in diameter, found in pairs, and rarely in groups. In some cases such formations were detected only after cultivating leukocytes in vitro.

The authors suppose that these formations may be of a virus nature.

Sum. 1305

NADGORNAYA, N. I.

YANOVSKIY, D.N., prof.; NADGORNAYA, N.I., nauchnyy sotrudnik; VINOGRADSKAYA-YEZERSKAYA, M.A.; GAMDZIY, G.P.

Electron microscopy in hematology. Vrach.delo no.11:1185-1187 N '57. (MIRA 11:2)

1. Otdel klinicheskoy gematologii (zav. - prof. D.N.Yanovskiy) Ukrainskogo instituta klinicheskoy meditsiny im. akad. N.D.Strazhesko i laboratoriya etiologii opukholey (zav. - deystv. chlen AMN SSSR, prof. A.D.Timofeyevskiy) Ukrainskogo instituta epidemiologii i mikrobiologii Ministerstva zdravookhraneniya USSR.
(ELECTRON MICROSCOPY) (BLOOD)

Kadrovaya, V. I.

Additional to the question concerning the action of extracts of leukemic tissues on human mice.

Materialy nauchnykh konferentsii, Kiev, 19[illegible]. 2[illegible]
(Kievskiy nauchno-issledovatel'skiy Institut [illegible]

[illegible]grayt, [illegible]

E[illegible]rimental studies of the [illegible] of [illegible] virus-like formations from leuk[illegible]tic tissues [illegible] in chick embryos.

[illegible]aterialy nauchnykh k[illegible]ferentsii, Kiev, 19[illegible]. [illegible] pp
Kievskiy Nauchno-Issledovatel'skiy Institut Epidemiologii [illegible]

YANOVSKIY, D.N., prof.; NADGORNAYA, N.I.; GANDZIY, G.P.; VINOGRADSKAYA-YEZERSKAYA, M.A.

Morphology of thrombocytes in leukemia patients as shwn by data of the electron microscope. Vrach.delo no.12:1275-1279 D '59. (MIRA 13:5)

1. Laboratoriya etiologii opukholey (zav. - deystvitel'nyy chlen AMN SSSR, prof. A.D. Timofeyevskiy) Ukrainskogo nauchno-issledovatel'skogo instituta epidemiologii i mikrobiologii i otdel klinicheskoy gematologii (zav. - prof. D.N. Yanovskiy) Instituta klinicheskoy meditsiny im. akademika N.G. Strazhesko.

(BLOOD PLATELETS)

NADGORNAYA, N. I., MAZURENKO, N. P., and TOPCHIY, M. K.

"Investigations of the cultivation of the virus of leukaemia in mice in vitro and of extracts of human leukaemic tissues."

report submitted for the European Conference on Tumor Biology (VICC),
Warsaw, Poland
22-27 May 1961

Nadgornaya, N. I.-Inst. Epidemiology and Microbiology, Spusk Stiepana Razina 6. Kiev

NADGORNAYA, N. I., Cand Med Sci -- "Electron microscopic and certain experimental data for the study of leukemia in man." Kiev, 1961. (Kiev Order of Labor Red Banner Med Inst im A. A. Bogomolets) (KL, 8-61, 263)

NADGORNAYA, N.I.

Electron microgram of some formed elements of the blood obtained by using ultrathin sections. TSitologiia 3 no. 2:198-203 Mr-Ap '61. (MIRA 14:4)

1. Laboratoriya etiologii opukholey Kiyevskogo nauchno-issledovatel'skogo instituta epidemiologii i mikrobiologii.
(ELECTRON MICROSCOPY) (LEUKEMIA) (BLOOD—EXAMINATION)

MAZURENKO, N.P.; TOPCHIY, M.K.; NADGORNAYA, N.I.

Cultivation of the virus of hemocytoblastosis-reticulosis of mice in explanted tissues. Vop. virus. 7 no.3:281-284 My-Je '62. (MIRA 16:8)

1. Laboratoriya etiologii opukholey Instituta epidemiologii i mikrobiologii, Kiyev.
(VIRUSES) (LEUKEMIA) (TISSUE CULTURE)

MAZURENKO, N.P.; NADGORNAYA, N.I.; TOPCHIY, M.A.

Study of the activity in mice of tissue extracts from leukemic patients by means of the method of tissue culture. Vop. virus. 7 no.3:323-327 My-Je'62. (MIRA 16:8)

1. Laboratoriya etiologii opukholey Kiyevskogo instituta epidemiologii i mikrobiologii.
(LEUKEMIA) (TISSUE CULTURE) (VIRUSES)
(TISSUE EXTRACTS)

SHUBIN, A.S.; NADGORNAYA, N.I.; MAZURENKO, N.I.

Electron microscopy of the mo[illegible] virus. Vop. virus. 9 no.6:720-722 N-D '64.

(MIRA [illegible])

1. Institut eksperimental'noy i klinicheskoy [illegible] AMN SSSR, Moskva, i Institut epidemiologii i mikrobiologii, Kiyev.

24(2) SOV/53-67-4-3/7

AUTHORS: Nadgornyy, E. M., Osip'yan, Yu. A., Perkas, M. D. Rozenberg V. M.

TITLE: Thread-shaped Crystals With a Strength That Is Near Theoretical Strength (Nitevidnyye kristally s prochnost'yu, blizkoy k teoreticheskoy)

PERIODICAL: Uspekhi fizicheskikh nauk, 1959, Vol 67, Nr 4, pp 625-662 (USSR)

ABSTRACT: The present paper gives a survey of results obtained (especially by papers published in Western periodicals) concerning the properties and the growth of the so-called "whiskers", i.e. thread-shaped crystals, which, as regards order of magnitude, are 10^3 times as long as thick. The strength of these crystals surpasses that of ordinary crystals of the same substance by 10 to 100 times their amount and attains values that are near those calculated on the basis of the forces of interatomic interaction. Special interest is further caused by investigations of electric resistance (especially at low temperatures), of the domain structure of the ferromagnetic crystals, as well as of photoelectric and optical quantities. The present paper presents a clear survey of what

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has hitherto been achieved. Part I of the paper gives details (with numerous figures) concerning the formation, orientation, and shape of the whiskers; breeding by the regeneration of metals from their salts, and breeding by means of condensation from vapors, and other methods are described, as also the production of nonmetallic whiskers; a number of photographs shows the shape and growth of copper- and tin-whiskers considerably enlarged (up to 9000 times). Part II contains a very vivid description of the growth of such crystals as well as data concerning a large number of papers, which are given in a table covering two pages. Part III deals with experiments and results concerning the mechanical properties of the whiskers; among other things, experimental data on the deformation of whiskers are compared with those of ordinary crystals; the tearing of these whiskers with as well as without previous plastic deformation is investigated and described in diagrams. The creeping of metallic whiskers is described (also the creeping resistance of whiskers is considerably greater than that of ordinary crystals of the same material). Finally, the influence exercised by temperature and by the dimensions of whiskers on their strength is described as also the influence

exercised by surface properties upon strength. Also the recovering of whiskers is demonstrated on the basis of figures 31 and 32 (altogether 10 photographs). Finally, other properties of whiskers are discussed in short (part IV). There are 33 figures, 5 tables, and 81 references, 6 of which are Soviet.

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B006/B06?

AUTHORS: Nadgornyy, E. M. and Smirnov, B. I.

TITLE: Structure of Copper Microwires

PERIODICAL: Fizika tverdogo tela 1960, Vol. 2 No. 12, pp. 3049-3049

TEXT: The authors examined copper microwires 4, 5, 6.6, 8, 9, 10.5, 14, 15, and 17μ in diameter which was calculated from the resistance of one linear unit. X-ray diffraction analysis revealed the structure of the wires and, in the case of single-crystal wires, also the orientation relative to the wire axis. The principal studies were made with a УРС-50И (URS-50I) diffractometer. Analysis of the results indicated that copper wires with a gage less than 14μ were single crystals, the axes of which coincided with the [001] plane. Microwires 15 and 17μ in diameter are polycrystalline and consist of large, desorientated grains. It was thus found that the wire structure is determined by its diameter and manufacturing method. Gold, silver, and copper microwires 4.7, 5, and ? μ in diameter showed the same results There are 4 references: 2 Soviet and 2 US.

X

Card 1/2

87909

Structure of Copper Microwire

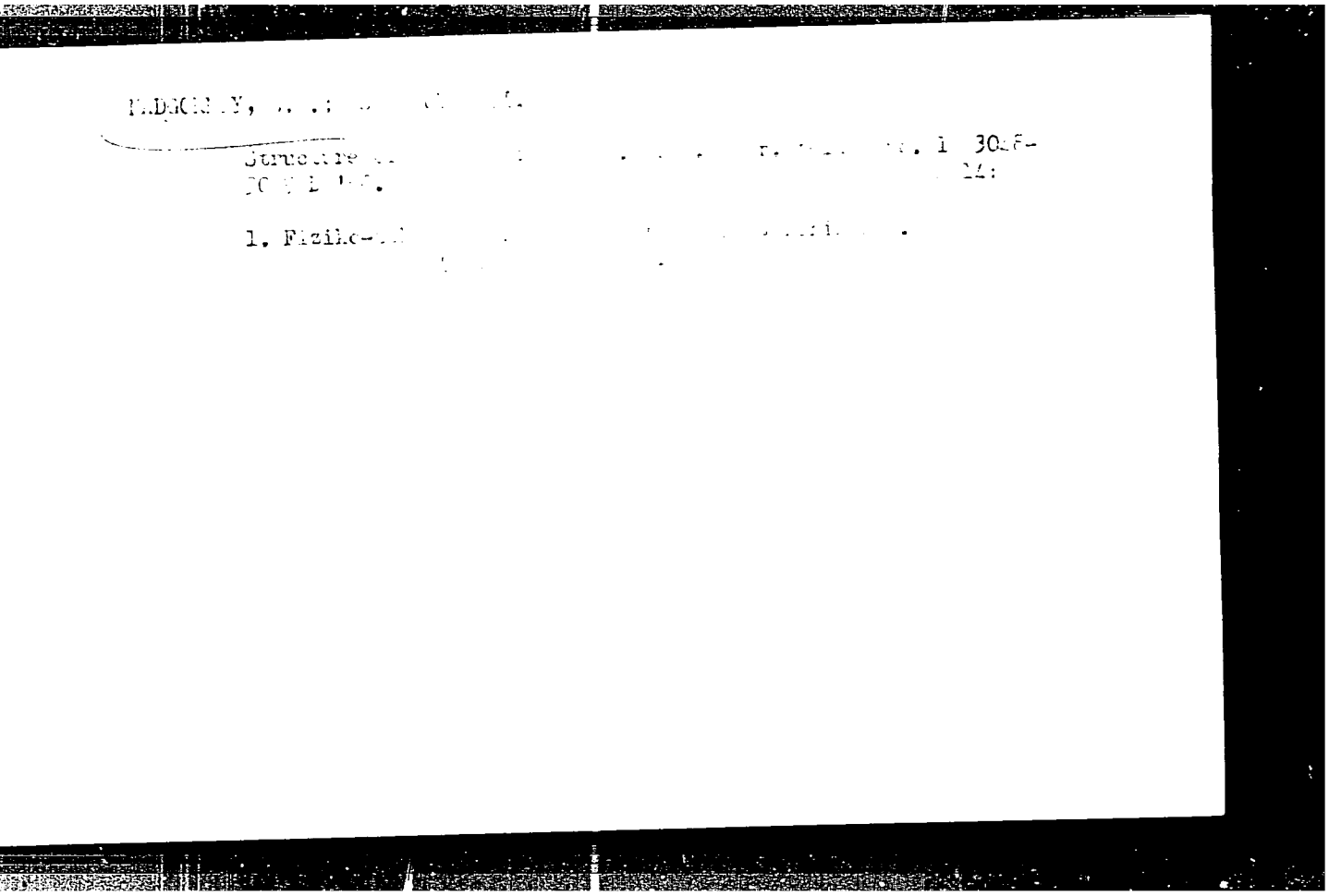
S/181/60/002/012/009/015
B006/B063

ASSOCIATION: Fiziko-tekhnicheskiy institut AN SSSR Leningrad (Institute of Physics and Technology AS USSR, Leningrad)

SUBMITTED: April 28, 1960

X

Card 2/2



S/181/61/003/003/026/030
B102/B205

AUTHOR: Nadgornyy, E. M.

TITLE: Growing of filament crystals of lithium fluoride

PERIODICAL: Fizika tverdogo tela, v. 3, no. 3, 1961, 957-958

TEXT: This is a brief report on the growing of filament crystals of lithium fluoride by the well-known method of crystallization through a porous diaphragm from a saturated aqueous solution. As LiF is scarcely soluble in water (0.27 g at 18°C), crystallization was done from a binary solution. The author mixed LiCl and KF solutions of such a concentration that the resulting binary solution was still slightly undersaturated. Crystallization was effected as usual, i.e., with the help of porous collodion or Cellophane diaphragms. After a slow evaporation for one or two days, a large number of filament KCl crystals had formed, which covered the outer side of the film, while filament LiF crystals formed on the inner side. The diaphragm had the form of a small bag. On account of the lower degree of evaporation, a saturated LiF solution formed inside, whilst a saturated KCl solution was produced outside, owing to the greater intensity of evaporation.

Card 1/2

Growing of ...

The solubility of KCl is about 125 times that of LiF. The LiF filaments produced had a length of 1-3 mm, a thickness of 1-5 μ, and a rectangular or quadratic cross section. In addition, thick crystals (up to 25 μ), small plates, and irregular bodies were observed. Their mechanical properties were similar to those of crystals obtained by G. W. Sears (Phys. Chem. Sol. 6, 300, 1958). A. V. Stepanov, head of the laboratory where the investigations were carried out, is thanked for his interest in the work. There are 1 figure and 7 references: 3 Soviet-bloc and 4 non-Soviet-bloc.

ASSOCIATION: Fiziko-tekhnicheskiy institut AN SSSR Leningrad (Institute of Physics and Technology, AS USSR, Leningrad)

SUBMITTED: August 23, 1960

Card 2/2

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S/181/61/003/004/008/030
B102/B214

24.7500 1035, 1143, 1160

AUTHORS: Nadgornyy, E. M. and Stepanov, A. V.

TITLE: Tensile and bending tests of filamentary crystals

PERIODICAL: Fizika tverdogo tela, v. 3, no. 4, 1961, 1068-1073

TEXT: An investigation of the mechanical properties of filamentary crystals is of interest on account of their particularly high strength approaching the theoretically expected value for ideal single crystals. On account of the small dimensions of these crystals, however, their study meets with technical difficulties. Therefore, the authors have designed a special device for tensile and bending tests of very small samples which is described here. It is shown schematically in Fig. 1. On the upper one of the two base plates (1 and 2) is attached a quartz frame (3) to which the clamp (4) is fastened for tensile tests. The clamp contains a small porcelain tube in which a tungsten or quartz filament of 100 μ thickness is introduced. The filament carries a drop of adhesive (5) to which one end of the specimen is fastened, its other end being attached to the quartz rod (6). This rod is 150 μ thick and transmits the load

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Tensile and bending tests ...

onto the sample. For bending tests, a support (7) is fitted on the frame, which consists of a quartz plate with an indentation. This indentation is 0.36, 0.45, 0.54, or 1.2 mm big, depending on the diameter and length of the sample. The filamentary crystal under investigation is placed over the indentation and loaded with the help of the quartz rod (8) at whose lower end is a wedge (9) of 20 μ thickness. The quartz rod (6 or 8) is connected to a spring (10) whose other end is in a replaceable support. In tensile tests, the rod (6) is connected with the spring (10). If one wants to ge from bending to tensile tests, one has only to replace (4) by (7) and to exchange the support (11). (11) is fastened to the plate (12) which is connected to the micrometer screw (14) and can be moved vertically with the help of the rotary disk (13). The load applied to the sample is measured with the spring (10). In bending tests, the plate with the spring is lowered, and in tensile tests it is raised. The optical arrangement for observation is not marked. An eyepiece micrometer measures the displacement of a light ray, which is brought about by the movement of the mirror (16) attached to the spring. The mirror (15) deflects this ray of light by 90°. Filamentary crystals of 1-15 μ thickness can be tested by this arrangement. The springs used

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consist of phosphor bronze, tungsten, or steel according to the load needed (200 mg to 100 g). The deformation of the sample is measured by a microscope with a magnification of 90-435. The accuracy of deformation measurement is 0.5 μ. The load is measured with an accuracy of 0.3 mg in tension and 0.03 mg in bending. The rate of deformation can be varied between 12 and 600 μ/min. With this device, tensile and bending tests of filamentary crystals having a diameter smaller than 20 μ were made for the following materials: Si, Sn, Te, Zn, ZnS, KCl, NaCl, Cu, and quartz. The results are collected in a table:

	Diameter [μ]	Direction of the axis	maximum strength, kg/mm^2 tension	bending
Cu	10	[001]	120	40
Sn	2-3	[111]	-	270
Te	5 (8-20)	[0001]	80	(36)
Zn	5 (2-3)	[$1\bar{2}13$]	(50)	40
ZnS	10-30	-	-	75
KCl	10	[001]	-	20
NaCl	10	[001]	12	5
Si	8-20	[111]	-	270

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Tensile and bending tests ...

[Abstracter's note: The table is only partly reproduced.] The authors thank N. P. Nikolayev for assistance. There are 5 figures, 1 table, and 5 references: 3 Soviet-bloc and 2 non-Soviet-bloc.

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B102/B214

Tensile and bending tests ...

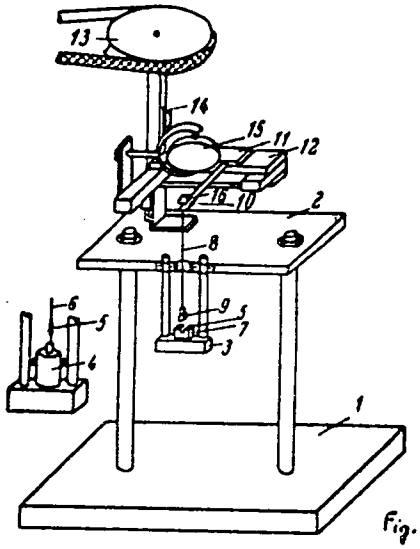

Fig. 1

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NADGORNYY E. M.

PHASE I BOOK EXPLOITATION SOV/6158

Seminar "Sovremennyye voprosy fizicheskogo metallovedeniya," Leningrad, 1961.

Sovremennyye voprosy fizicheskogo metallovedeniya; materialy seminara, provedennogo v Leningradskom Dome nauchno-tekhnicheskoy propagandy 9 - 11 maya 1961 g. (Present Problems in Physical Metallurgy; Materials of the Seminar Held in Leningrad House of Scientific and Technical Propaganda, 9 - 11 May 1961). Leningrad, 1962, 60 p. (Series: Leningradskiy Dom nauchno-tekhnicheskoy propagandy. Sektsiya metallovedeniya i termoobrabotki. Seriya: Metallovedeniye i termicheskaya obrabotka) 4500 copies printed.

Sponsoring Agency: Obshchestvo po rasprostraneniyu politicheskikh i nauchnykh znaniy RSFSR, and NTO Mashprom Leningradskoye oblastnoye pravleniye. Leningradskiy Dom nauchno-tekhnicheskoy propagandy. Sektsiya metallovedeniya i termoobrabotki. Ed.: N. F. Vyaznikov, Engineer, Candidate of Technical Sciences; Ed. of Publishing House: D. P. Freger; Tech. Ed.: V. A. Bol'shakov.

Card 1/3

PURPOSE: This booklet is intended for scientists and engineers interested in physical metallurgy.

COVERAGE: This booklet contains five of the fourteen reports presented at the seminar on "Present Problems of Physical Metallurgy," held in the Leningrad House of Scientific and Technical Propaganda on May 9-11th, 1961. The program of the seminar was worked out by the Organizational Committee under the supervision of Academician N. N. Davidenkov. The reports review a number of new trends in the development of physical metallurgy. No personalities are mentioned. Each report is accompanied by references, mostly Soviet.

TABLE OF CONTENTS:

Present Problems in Physical Metallurgy; (Cont.) SOV/6158

AVAILABLE: Library of Congress

SUBJECT: Metals and Metallurgy

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DV/wb/jw
2/7/63

STEPANOV, A. V.; NADGORNYY, E. M.;

"Artificial slip formation and dislocation structure of Sodium Chloride Crystals"
Paper was submitted at the International Conference on Crystal Lattice Defects at Kyoto, 7-12 Sep '62

(for Stepanov, a. v.) Physico Technical Inst. of Acad. Sci. USSR

L 19670-63 EWP(q)/EWT(m)/EWP(B)/BDS AFFTC/ASD JD

ACCESSION NR: AR3006984 S/0058/63/000/008/E044/E044

SOURCE: RZh. Fizika, Abs. 8E314

AUTHORS: Zimkin, I. N.; Nadgorny*y, E. M.; Smirnov, B. I.

TITLE: X-ray diffraction study of filament-like sodium chloride crystals

CITED SOURCE: Sb. shchelochnogaloidn. kristallov, Riga, 1962, 463-465

TOPIC TAGS: filament-like crystal , sodium chloride, X-ray diffraction study

TRANSLATION: The method of diffraction microroentgenography (the Lang method) has been used to investigate the dislocation structure of filament-like crystals (FC) of NaCl. FC of NaCl grown by crystallization through a porous partition were investigated. It was

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shown that in thin FC (10--20μ) there are only dislocations, which are located along the growth axis (along the direction < 100 >). Crystals of larger size have as a rule a more complicated dislocation structure. Heating of plastically bent FC leads to restoration of the dislocation structure existing prior to their bending.
V. Regel'. 14

DATE ACQ: 06Sep63 SUB CODE: PH ENCL: 00

Card 2/2

S/053/62/077/002/001/004
B117/B138

AUTHOR: Nadgornyy, E. M.

TITLE: Properties of thread-like crystals

PERIODICAL: Uspekhi fizicheskikh nauk, v. 77, no. 2, 1962, 201 - 227

TEXT: This is a survey of Western and Soviet papers published since 1952 on the properties of thread-like crystals, often called "whiskers". Progress achieved in recent years is dealt with, and in particular papers published after the survey of E. M. Nadgornyy, Yu. A. Osip'yan, M. D. Perkas, V. M. Rozenberg, UFN 67, 625 (1959). Unlike the latter, the present paper is only concerned with the properties of thread-like crystals and not with their growth. The following are considered: (1) Mechanical properties: elastic and plastic deformation; creep and fatigue; effect of temperature and impurities. (2) Magnetic and electric properties. (3) Surface properties and structure; strength of thread and ordinary crystals. Studies in this field can be conducted from two standpoints: (1) Whiskers, which are nearly ideal crystals, can be used to investigate properties of an ideal lattice; (2) thread crystals without ideal properties can be used to investigate the causes of low strength in ordinary crystals. From the

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STEPANOV, A. V.; NADGORNYI, E. M.

"Artificial slip formation and dislocation structure of sodium chloride."

report submitted for 6th Gen Assembly, Intl Union of Crystallography, Rome, 9 Sep 63.

Physico-Tech Inst, AS USSR, Leningrad.